

LISTING OF THE CLAIMS

Following is a listing of all claims in the present application, which listing supersedes all previously presented claims:

1. (Previously Presented) A baking system, comprising:

a heat pipe including a top surface on a top side thereof for receiving a wafer to be baked, the heat pipe to be filled with a predetermined amount of working fluid and having wicks formed on inner sides and an inner ceiling thereof for supplying the working fluid adjacent to an inner floor of a bottom side of the heat pipe to the inner ceiling;

a heater for heating the top surface by heating the bottom side of the heat pipe and the working fluid, the heater extending along and contacting a bottom surface of the bottom side of the heat pipe, the heater and the working fluid sandwiching the bottom side of the heat pipe therebetween;

a cooling system for cooling the working fluid;

a connection pipe for providing fluid communication between the heat pipe and the cooling system; and

a control unit for controlling a flow of the working fluid through the connection pipe.

2. (Previously Presented) The system as claimed in claim 1, wherein the connection pipe comprises an inlet flow path and an outlet flow path for providing fluid communication between the heat pipe and the cooling system.

3. (Previously Presented) The system as claimed in claim 1, wherein the connection pipe comprises:

an outlet connection pipe for providing fluid communication from the heat pipe to the cooling system; and

an inlet connection pipe for providing fluid communication from the cooling system to the heat pipe.

4. (Original) The system as claimed in claim 3, wherein the control unit comprises:
an outlet fluid control unit installed in the outlet connection pipe; and
an inlet fluid control unit installed in the inlet connection pipe.

5. (Original) The system as claimed in claim 4, wherein the outlet fluid control unit is selected from the group consisting of an automated pump and a valve and the inlet fluid control unit is selected from the group consisting of a valve, an automatic pump, and a manual pump.

6. (Withdrawn) The system as claimed in claim 3, wherein the control unit comprises:
a first outlet fluid control unit and a second outlet fluid control unit sequentially installed in the outlet connection pipe; and
an inlet fluid control unit installed in the inlet connection pipe.

7. (Withdrawn) The system as claimed in claim 6, wherein the first outlet fluid control unit is selected from the group consisting of an automatic valve and a manual valve, the inlet fluid control unit is selected from the group consisting of an automatic valve, a manual valve, and a pump, and the second outlet fluid control unit is a pump.

8. (Withdrawn – Previously Presented) The system as claimed in claim 21, wherein the subsidiary cooling system comprises:
a coolant storage tank for storing the liquid coolant, the coolant storage tank having a wick formed therein;
a cooling unit installed at the coolant storage tank for cooling the working fluid supplied from the heat pipe; and
a pressurizing unit for pressurizing the liquid coolant during a process of cooling the top surface.

9. (Previously Presented) The system as claimed in claim 21, wherein the subsidiary cooling system comprises:

- a first coolant storage tank for storing the liquid coolant; and
- a first cooling system installed at the first coolant storage tank for cooling the working fluid supplied from the heat pipe.

10. (Original) The system as claimed in claim 1, wherein the control unit is selected from the group consisting of a pump and a valve.

11. (Previously Presented) A baking system, comprising:

- a heat pipe including a top surface for receiving a wafer to be baked, the heat pipe to be filled with a predetermined amount of working fluid and having wicks formed on sides and a ceiling thereof for supplying the working fluid;
- a heater for heating the top surface by heating the working fluid;
- a cooling system for cooling the working fluid, the cooling system being a subsidiary cooling apparatus that contains a liquid coolant to be exchanged with the working fluid from the heat pipe;
- a connection pipe for providing fluid communication between the heat pipe and the cooling system; and
- a control unit for controlling a flow of the working fluid through the connection pipe; wherein the subsidiary cooling system includes:
 - a first coolant storage tank for storing the liquid coolant;
 - a first cooling system installed at the first coolant storage tank for cooling the working fluid supplied from the heat pipe; and
 - a second coolant storage tank in fluid communication with the first coolant storage tank, wherein the first cooling system extends to the second coolant storage tank.

12. (Previously Presented) A baking system, comprising:

- a heat pipe including a top surface for receiving a wafer to be baked, the heat pipe to be filled with a predetermined amount of working fluid and having wicks formed on sides and a ceiling thereof for supplying the working fluid;

a heater for heating the top surface by heating the working fluid;
a cooling system for cooling the working fluid, the cooling system being a subsidiary cooling apparatus that contains a liquid coolant to be exchanged with the working fluid from the heat pipe;
a connection pipe for providing fluid communication between the heat pipe and the cooling system; and
a control unit for controlling a flow of the working fluid through the connection pipe;
wherein the subsidiary cooling system includes:
a first coolant storage tank for storing the liquid coolant;
a first cooling system installed at the first coolant storage tank for cooling the working fluid supplied from the heat pipe;
a second coolant storage tank in fluid communication with the first coolant storage tank; and
a second cooling system installed at the second coolant storage tank.

13. (Original) The system as claimed in claim 11, further comprising:
an intermediate connection pipe for providing fluid communication between the first coolant storage tank and the second coolant storage tank; and
an intermediate fluid control unit installed in the intermediate connection pipe.

14. (Withdrawn – Previously Presented) The system as claimed in claim 21, further comprising a subsidiary heater installed in the connection pipe between an inlet of the heat pipe and the subsidiary cooling system to heat a fluid flowing through the connection pipe.

15. (Withdrawn) The system as claimed in claim 9, further comprising a subsidiary heater installed at the first coolant storage tank to heat a fluid supplied into the heat pipe.

16. (Previously Presented) The system as claimed in claim 1, wherein the working fluid is selected from the group consisting of water, deionized water, acetone, and methyl.

17. (Withdrawn – Previously Presented) The system as claimed in claim 1,

wherein the cooling system is a cooling unit installed in the connection pipe for cooling the working fluid flowing through the connection pipe.

18. (Withdrawn) The system as claimed in claim 17, wherein the cooling unit is installed to wrap around a portion of the connection pipe.

19.-20. (Canceled).

21. (Previously Presented) The system as claimed in claim 1, wherein the cooling system is a subsidiary cooling apparatus that contains a liquid coolant to be exchanged with the working fluid from the heat pipe.

22. (Previously Presented) The system as claimed in claim 21, wherein the control unit is installed in the connection pipe and controls flow of the liquid coolant.